

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Plowman, Gregory
Mossie, Kevin
- (ii) TITLE OF INVENTION: DIAGNOSIS AND TREATMENT OF AUR-1
AND/OR AUR-2 RELATED DISORDERS
- (iii) NUMBER OF SEQUENCES: 39
- (iv) CORRESPONDENCE ADDRESS:
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Suite 4700
(C) CITY: Los Angeles
(D) STATE: California
(E) COUNTRY: U.S.A.
(F) ZIP: 90071-2066
- (v) COMPUTER READABLE FORM:
- (A) MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
storage
(B) COMPUTER: IBM Compatible
(C) OPERATING SYSTEM: IBM P.C. DOS 5.0
(D) SOFTWARE: FastSEQ for Windows 2.0
- (vi) CURRENT APPLICATION DATA:
- (A) APPLICATION NUMBER: 09/012,135
(B) FILING DATE: January 22, 1998
(C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
- (A) APPLICATION NUMBER: 09/005,268
(B) FILING DATE: January 9, 1998

(A) APPLICATION NUMBER: 08/755,728
 (B) FILING DATE: November 25, 1996

(A) APPLICATION NUMBER: 60/023,943
 (B) FILING DATE: August 14, 1996

(A) APPLICATION NUMBER: 60/008,809
 (B) FILING DATE: December 18, 1995

(viii) ATTORNEY/AGENT INFORMATION:

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 (C) REFERENCE/DOCKET NUMBER: 231/282

(ix) TELECOMMUNICATION INFORMATION:

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(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1244 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

CGGGAGAGTA	GCAGTGCCTT	GGACCCCAGC	TCTCCTCCCC	CTTTCTCTCT	AAGGATGGCC	60
CAGAAGGAGA	ACTCCTACCC	CTGGCCCTAC	GGCCGACAGA	CGGCTCCATC	TGGCCTGAGC	120
ACCCTGCCCC	AGCGAGTCCT	CCGGAAAGAG	CCTGTCACCC	CATCTGCACT	TGTCCTCATG	180

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AGCCGCTCCA	ATGTCCAGCC	CACAGCTGCC	CCTGGCCAGA	AGGTGATGGA	GAATAGCAGT	240
GGGACACCCG	ACATCTTAAC	GCGGCACTTC	ACAATTGATG	ACTTTGAGAT	TGGGCGTCCT	300
CTGGGCAAAG	GCAAGTTTGG	AAACGTGTAC	TTGGCTCGGG	AGAAGAAAAG	CCATTTTCATC	360
GTGGCGCTCA	AGGTCCTCTT	CAAGTCCCAG	ATAGAGAAGG	AGGGCGTGGA	GCATCAGCTG	420
CGCAGAGAGA	TCGAAATCCA	GGCCCACCTG	CACCATCCCA	ACATCCTGCG	TCTCTACAAC	480
TATTTTTATG	ACCGGAGGAG	GATCTACTTG	ATTCTAGAGT	ATGCCCCCG	CGGGGAGCTC	540
TACAAGGAGC	TGCAGAAGAG	CTGCACATTT	GACGAGCAGC	GAACAGCCAC	GATCATGGAG	600
GAGTTGGCAG	ATGCTCTAAT	GTACTGCCAT	GGGAAGAAGG	TGATTACACAG	AGACATAAAG	660
CCAGAAAATC	TGCTCTTAGG	GCTCAAGGGA	GAGCTGAAGA	TTGCTGACTT	CGGCTGGTCT	720
GTGCATGCGC	CCTCCCTGAG	GAGGAAGACA	ATGTGTGGCA	CCCTGGACTA	CCTGCCCCCA	780
GAGATGATTG	AGGGGCGCAT	GCACAATGAG	AAGGTGGATC	TGTGGTGCAT	TGGAGTGCTT	840
TGCTATGAGC	TGCTATGAGC	GAACCCACCC	TTCGAGAGTG	CATCACACAA	CGAGACCTAT	900
CGCCGCATCG	TCAAGGTGGA	CCTAAAGTTC	CCCGCTTCTG	TGCCCACGGG	AGCCCAGGAC	960
CTCATCTCCA	AACTGCTCAG	GCATAACCCC	TCGGAACGGC	TGCCCCCTGGC	CCAGGTCTCA	1020
GCCCACCCTT	GGGTCCGGGC	CAACTCTCGG	AGGGTGCTGC	CTCCCTCTGC	CCTTCAATCT	1080
GTCGCCTGAT	GGTCCCTGTC	ATTCACCTCG	GTGCGTGTGT	TTGTATGTCT	GTGTATGTAT	1140
AGGGGAAAGA	AGGGATCCCT	AACTGTTCCC	TTATCTGTTT	TCTACCTCCT	CCTTTGTTTA	1200
ATAAAGGCTG	AAGCTTTTTG	TAAAAAACA	AAAAAAAAA	AAAA		1244

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	2198 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

GGGATATCTC	AGTGGCGGAC	GAGGACGGCG	GGGACAAGGG	GCGGCTGGTC	GGAGTGGCGG	60
ACGTCAAGTC	CCCTGTCCGT	TCCTCCGTCC	CTGAGTGTC	TTGGCGCTGC	CTTGTGCCCG	120
CCCAGCGCCT	TTGCATCCGC	TCCTGGGCAC	CGAGGCGCCC	TGTAGGATAC	TGCTTGTTAC	180
TTATTACAGC	TAGAGGCATC	ATGGACCGAT	CTAAAGAAAA	CTGCATTTCA	GGACCTGTTA	240
AGGCTACAGC	TCCAGTTGGA	GGTCCAAAAC	GTGTTCTCGT	GACTCAGCAA	TTTCCTTGTC	300
AGAATCCATT	ACCTGTAAAT	AGTGGCCAGG	CTCAGCGGGT	CTTGTGTCCT	TCAAATTCTT	360
CCCAGCGCGT	TCCTTTGCAA	GCACAAAAGC	TTGTCTCCAG	TCACAAGCCG	GTTCAGAATC	420
AGAAGCAGAA	GCAATTGCAG	GCAACCAAGT	TACCTCATCC	TGTCTCCAGG	CCACTGAATA	480
ACACCCAAAA	GAGCAAGCAG	CCCCTGCCAT	CGGCACCTGA	AAATAATCCT	GAGGAGGAAC	540
TGGCATCAAA	ACAGAAAAAT	GAAGAATCAA	AAAAGAGGCA	GTGGGCTTTG	GAAGACTTTG	600
AAATTGGTCG	CCCTCTGGGT	AAAGGAAAGT	TTGGTAATGT	TTATTGGCA	AGAGAAAAGC	660
AAAGCAAGTT	TATTCTGGCT	CTTAAAGTGT	TATTTAAAGC	TCAGCTGGAG	AAAGCCGGAG	720
TGGAGCATCA	GCTCAGAAGA	GAAGTAGAAA	TACAGTCCCA	CCTTCGGCAT	CCTAATATTC	780
TTAGACTGTA	TGTTATTTC	CATGATGCTA	CCAGAGTCTA	CCTAATTCTG	GAATATGCAC	840

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CACTTGGAAC	AGTTTATAGA	GAACCTCAGA	AACTTTCAAA	GTTTGATGAG	CAGAGAACTG	900
CTACTTATAT	AACAGAATTG	GCAAATGCCC	TGTCTTACTG	TCATTCTGAAG	AGAGTTATTC	960
ATAGAGACAT	TAAGCCAGAG	AACTTACTTC	TTGGATCAGC	TGGAGAGCTT	AAAATTGCAG	1020
ATTTTGGGTG	GTCAGTACAT	GCTCCATCTT	CCAGGAGGAC	CACTCTCTGT	GGCACCCCTGG	1080
ACTACCTGCC	CCCTGAAATG	ATTGAAGGTC	GGATGCATGA	TGAGAAGGTG	GATCTCTGGA	1140
GCCTTGGAGT	TCTTTGCTAT	GAATTTTTAG	TTGGGAAGCC	TCCTTTTGAG	GCAAACACAT	1200
ACCAAGAGAC	CTACAAAAGA	ATATCACGGG	TTGAATTAC	ATTCCCTGAC	TTTGTAACAG	1260
AGGGAGCCAG	GGACCTCATT	TCAAGACTGT	TGAAGCATAA	TCCCAGCCAG	AGGCCAATGC	1320
TCAGAGAAGT	ACTTGAACAC	CCCTGGATCA	CAGCAAATTC	ATCAAAACCA	TCAAATTGCC	1380
AAAACAAAGA	ATCAGCTAGC	AAACAGTCTT	AGGAATCGTG	CAGGGGGAGA	AATCCTTGAG	1440
CCAGGGCTGC	CATATAACCT	GACAGGAACA	TGCTACTGAA	GTTTATTTTA	CCATTGACTG	1500
CTGCCCTCAA	TCTAGAACGC	TACACAAGAA	ATATTTGTTT	TACTCAGCAG	GTGTGCCTTA	1560
ACCTCCCTAT	TCAGAAAGCT	CCACATCAAT	AAACATGACA	CTCTGAAGTG	AAAGTAGCCA	1620
CGAGAATTGT	GCTACTTATA	CTGGTTCATA	ATCTGGAGGC	AAGGTTTCGAC	TGCAGCCGCC	1680
CCGTCAGCCT	GTGCTAGGCA	TGGTGTCTTC	ACAGGAGGCA	AATCCAGAGC	CTGGCTGTGG	1740
GGAAAGTGAC	CACTCTGCCC	TGACCCCGAT	CAGTTAAGGA	GCTGTGCAAT	AACCTTCCTA	1800
GTACCTGAGT	GAGTGTGTAA	CTTATTGGGT	TGGCGAAGCC	TGGTAAAGCT	GTTGGAATGA	1860
GTATGTGATT	CTTTTTAAGT	ATGAAAATAA	AGATATATGT	ACAGACTTGT	ATTTTTTCTC	1920
TGGTGGCATT	CCTTTAGGAA	TGCTGTGTGT	CTGTCCGGCA	CCCCGGTAGG	CCTGATTGGG	1980
TTTCTAGTCC	TCCTTAACCA	CTTATCTCCC	ATATGAGAGT	GTGAAAAATA	GGAACACGTG	2040
CTCTACCTCC	ATTTAGGGAT	TTGCTTGGGA	TACAGAAGAG	GCCATGTGTC	TCAGAGCTGT	2100
TAAGGGCTTA	TTTTTTTAAA	ACATTGGAGT	CATAGCATGT	GTGTAAACTT	TAAATATGCA	2160
AATAAATAAG	TATCTATGTC	AAAAAAAAAA	AAAAAAAAAA			2198

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	344 amino acids
(B) TYPE:	amino acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

Met	Ala	Gln	Lys	Glu	Asn	Ser	Tyr	Pro	Trp	Pro	Tyr	Gly	Arg	Gln	Thr
1				5					10					15	
Ala	Pro	Ser	Gly	Leu	Ser	Thr	Leu	Pro	Gln	Arg	Val	Leu	Arg	Lys	Glu
			20					25					30		

Pro Val Thr Pro Ser Ala Leu Val Leu Met Ser Arg Ser Asn Val Gln
 35 40 45
 Pro Thr Ala Ala Pro Gly Gln Lys Val Met Glu Asn Ser Ser Gly Thr
 50 55 60
 Pro Asp Ile Leu Thr Arg His Phe Thr Ile Asp Asp Phe Glu Ile Gly
 65 70 75 80
 Arg Pro Leu Gly Lys Gly Lys Phe Gly Asn Val Tyr Leu Ala Arg Glu
 85 90 95
 Lys Lys Ser His Phe Ile Val Ala Leu Lys Val Leu Phe Lys Ser Gln
 100 105 110
 Ile Glu Lys Glu Gly Val Glu His Gln Leu Arg Arg Glu Ile Glu Ile
 115 120 125
 Gln Ala His Leu His His Pro Asn Ile Leu Arg Leu Tyr Asn Tyr Phe
 130 135 140
 Tyr Asp Arg Arg Arg Ile Tyr Leu Ile Leu Glu Tyr Ala Pro Arg Gly
 145 150 155 160
 Glu Leu Tyr Lys Glu Leu Gln Lys Ser Cys Thr Phe Asp Glu Gln Arg
 165 170 175
 Thr Ala Thr Ile Met Glu Glu Leu Ala Asp Ala Leu Met Tyr Cys His
 180 185 190
 Gly Lys Lys Val Ile His Arg Asp Ile Lys Pro Glu Asn Leu Leu Leu
 195 200 205
 Gly Leu Lys Gly Glu Leu Lys Ile Ala Asp Phe Gly Trp Ser Val His
 210 215 220
 Ala Pro Ser Leu Arg Arg Lys Thr Met Cys Gly Thr Leu Asp Tyr Leu
 225- 230 235 240
 Pro Pro Glu Met Ile Glu Gly Arg Met His Asn Glu Lys Val Asp Leu
 245 250 255
 Trp Cys Ile Gly Val Leu Cys Tyr Glu Leu Leu Val Gly Asn Pro Pro
 260 265 270
 Phe Glu Ser Ala Ser His Asn Glu Thr Tyr Arg Arg Ile Val Lys Val
 275 280 285
 Asp Leu Lys Phe Pro Ala Ser Val Pro Thr Gly Ala Gln Asp Leu Ile
 290 295 300

Ser Lys Leu Leu Arg His Asn Pro Ser Glu Arg Leu Pro Leu Ala Gln
 305 310 315 320

Val Ser Ala His Pro Trp Val Arg Ala Asn Ser Arg Arg Val Leu Pro
 325 330 335

Pro Ser Ala Leu Gln Ser Val Ala
 340

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 403 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

Met Asp Arg Ser Lys Glu Asn Cys Ile Ser Gly Pro Val Lys Ala Thr
 1 5 10 15

Ala Pro Val Gly Gly Pro Lys Arg Val Leu Val Thr Gln Gln Phe Pro
 20 25 30

Cys Gln Asn Pro Leu Pro Val Asn Ser Gly Gln Ala Gln Arg Val Leu
 35 40 45

Cys Pro Ser Asn Ser Ser Gln Arg Val Pro Leu Gln Ala Gln Lys Leu
 50 55 60

Val Ser Ser His Lys Pro Val Gln Asn Gln Lys Gln Lys Gln Leu Gln
 65 70 75 80

Ala Thr Ser Val Pro His Pro Val Ser Arg Pro Leu Asn Asn Thr Gln
 85 90 95

Lys Ser Lys Gln Pro Leu Pro Ser Ala Pro Glu Asn Asn Pro Glu Glu
 100 105 110

Glu Leu Ala Ser Lys Gln Lys Asn Glu Glu Ser Lys Lys Arg Gln Trp
 115 120 125

Ala Leu Glu Asp Phe Glu Ile Gly Arg Pro Leu Gly Lys Gly Lys Phe
 130 135 140

Gly Asn Val Tyr Leu Ala Arg Glu Lys Gln Ser Lys Phe Ile Leu Ala
 145 150 155 160

Leu Lys Val Leu Phe Lys Ala Gln Leu Glu Lys Ala Gly Val Glu His
 165 170 175

Gln Leu Arg Arg Glu Val Glu Ile Gln Ser His Leu Arg His Pro Asn
 180 185 190

Ile Leu Arg Leu Tyr Gly Tyr Phe His Asp Ala Thr Arg Val Tyr Leu
 195 200 205

Ile Leu Glu Tyr Ala Pro Leu Gly Thr Val Tyr Arg Glu Leu Gln Lys
 210 215 220

Leu Ser Lys Phe Asp Glu Gln Arg Thr Ala Thr Tyr Ile Thr Glu Leu
 225 230 235 240

Ala Asn Ala Leu Ser Tyr Cys His Ser Lys Arg Val Ile His Arg Asp
 245 250 255

Ile Lys Pro Glu Asn Leu Leu Leu Gly Ser Ala Gly Glu Leu Lys Ile
 260 265 270

Ala Asp Phe Gly Trp Ser Val His Ala Pro Ser Ser Arg Arg Thr Thr
 275 280 285

Leu Cys Gly Thr Leu Asp Tyr Leu Pro Pro Glu Met Ile Glu Gly Arg
 290 295 300

Met His Asp Glu Lys Val Asp Leu Trp Ser Leu Gly Val Leu Cys Tyr
 305 310 315 320

Glu Phe Leu Val Gly Lys Pro Pro Phe Glu Ala Asn Thr Tyr Gln Glu
 325 330 335

Thr Tyr Lys Arg Ile Ser Arg Val Glu Phe Thr Phe Pro Asp Phe Val
 340 345 350

Thr Glu Gly Ala Arg Asp Leu Ile Ser Arg Leu Leu Lys His Asn Pro
 355 360 365

Ser Gln Arg Pro Met Leu Arg Glu Val Leu Glu His Pro Trp Ile Thr
 370 375 380

Ala Asn Ser Ser Lys Pro Ser Asn Cys Gln Asn Lys Glu Ser Ala Ser
 385 390 395 400

Lys Gln Ser

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

Glu Asn Ser Tyr Pro Trp Pro Tyr Gly Arg Gln
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

Cys Ile Ser Gly Pro
 1 5

(2) INFORMATION FOR SEQ ID NO: 7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

Gln Phe Pro Gln

1

(2) INFORMATION FOR SEQ ID NO: 8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

Val Asn Ser Gly Gln

1

5

(2) INFORMATION FOR SEQ ID NO: 9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

Arg Lys Glu Pro Val Thr Pro Ser Ala Leu Val
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 10:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

Leu Met Ser Arg Ser Asn Val Gln Pro Thr Ala Ala Pro
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

Val Gln Asn Gln Lys Gln Lys Gln Leu Gln Ala Thr Ser Val Pro His
 1 5 10 15

(2) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

Pro Val Ser Arg Pro Leu Asn Asn Thr Gln Lys
1 5 10

(2) INFORMATION FOR SEQ ID NO: 13:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

Val Met Glu Asn Ser Ser Gly Thr Pro Asp
1 5 10

(2) INFORMATION FOR SEQ ID NO: 14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Ile Leu Thr Arg His Phe Thr Ile Asp
1 5

(2) INFORMATION FOR SEQ ID NO: 15:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

Ser Lys Gln Pro Leu Pro Ser Ala Pro Glu Asn Asn Pro Glu Glu Gln
1 5 10 15

Leu Ala Ser Lys Gln Lys
20

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ix) FEATURE:

(D) OTHER INFORMATION: The letter "R" stands for A or G.
The letter "Y" stands for C or T.
The letter "N" stands for A, C, G or T.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

GARTTYGGNG ARGNTNTTYT NGC

23

(2) INFORMATION FOR SEQ ID NO: 17:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ix) FEATURE:

(D) OTHER INFORMATION: The letter "N" stands for A, C, G or T.
 The letter "R" stands for A or G.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

AGNACNCCRA ANGCCCACAC RTC

23

(2) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

Glu Phe Gly Glu Val Phe Leu Ala
 1 5

(2) INFORMATION FOR SEQ ID NO: 19:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

TTTGGCTCGG GAGAAGAAAA GCCAT
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(2) INFORMATION FOR SEQ ID NO: 20:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CAATCATCTC TGGGGGCAGG TAGT

24

(2) INFORMATION FOR SEQ ID NO: 21:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ser
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

Ser Ala Pro Glu Asn Asn Pro Glu Glu Gln Leu Ala Ser Lys
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 23:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

Arg Pro Leu Asn Asn Thr Gln Lys Ser Lys Gln Pro Leu
1 5 10

(2) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

Met Ala Gln Lys Glu Asn Ser Tyr Pro Trp Pro Tyr Gly
1 5 10

(2) INFORMATION FOR SEQ ID NO: 25:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

Pro Gly Gln Lys Val Met Glu Asn Ser Ser Gly Thr Pro
1 5 10

(2) INFORMATION FOR SEQ ID NO: 26:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(ix) FEATURE:

(D) OTHER INFORMATION: "Xaa" in positions 2, 4, 5 and 7 stands for an unidentified amino acid.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

Gly Xaa Gly Xaa Xaa Gly Xaa Val
1 5

(2) INFORMATION FOR SEQ ID NO: 27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

Asp Val Trp Ser Tyr Phe Gly Ile Val
1 5

(2) INFORMATION FOR SEQ ID NO: 28:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(ix) FEATURE:

(D) OTHER INFORMATION: "Xaa" in positions 2 and 6 stands
 for an unidentified amino acid.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

Asp Xaa Trp Ala Ser Xaa Gly Ile Val
 1 5

(2) INFORMATION FOR SEQ ID NO: 29:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Peptide

(ix) FEATURE:

(D) OTHER INFORMATION: "Xaa" in position 4 represents
 either Asp or Ser.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

Asp Val Trp Xaa Phe Gly Val Leu
 1 5

(2) INFORMATION FOR SEQ ID NO: 30:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

CAGGGCAGAG TGGTCACTTT C

21

(2) INFORMATION FOR SEQ ID NO: 31:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

CGTCCGCCAC TCCGACCAGC C

21

(2) INFORMATION FOR SEQ ID NO: 32:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

TGCAGTCGAA CCTTGCCTCC A

21

(2) INFORMATION FOR SEQ ID NO: 33:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	8 amino acids
(B) TYPE:	amino acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(ii) MOLECULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

Asp Val Trp Ala Phe Gly Val Leu

1

(2) INFORMATION FOR SEQ ID NO: 34:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	20 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

CGCCTTTGCA TCCGCTCCTG

20

(2) INFORMATION FOR SEQ ID NO: 35:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	20 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

GATTTGCCTC CTGTGAAGAC

20

(2) INFORMATION FOR SEQ ID NO: 36:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

ATGCCTCCGG AAAGAGCCTG T

21

(2) INFORMATION FOR SEQ ID NO: 37:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	22 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

GTGTCCCACT GCTATTCTCC AT

22

(2) INFORMATION FOR SEQ ID NO: 38:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	21 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

CAGGGCTGCC ATATAACCTG A

21

(2) INFORMATION FOR SEQ ID NO: 39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH:	20 base pairs
(B) TYPE:	nucleic acid
(C) STRANDEDNESS:	single
(D) TOPOLOGY:	linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

CTAGCACAGG CTGACGGGGC

20